10/539547

(12) INTERNATIONA

PLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



I ROBER KHIRIDI IN DURHA KIBIN BURH BURH BURH BIRK PIN BIRBARI BUHH BURH KUBU HAN BIRKAN BURHAN BURH KAN BURH

(43) International Publication Date 1 July 2004 (01.07.2004)

PCT

(10) International Publication Number WO 2004/056028 A1

(51) International Patent Classification7:

H04L 1/00

(21) International Application Number:

PCT/IB2003/006035

(22) International Filing Date:

18 December 2003 (18.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/434,546

18 December 2002 (18.12.2002)

- (71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (71) Applicant (for AE only): U.S. PHILIPS CORPORA-TION [US/US]; 1251 Avenue of the Americas, New York, NY 10510-8001 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): WIESENTHAL, Hartmut [DE/US]; 1109 McKay Drive, M/S-41SJ, San Jose, CA 95131 (US).

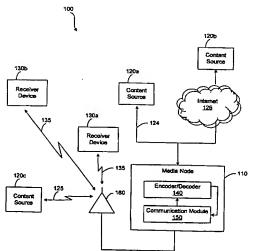
- (74) Common Representative: KONINKLIJKE PHILIPS ELECTRONICS N.V.; c/o LESTER, Shannon, 1109 McKay Drive, M/S-41SJ, San Jose, CA 95131 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,

[Continued on next page]

(54) Title: ADAPTIVE ENCODING OF DIGITAL MULTIMEDIA INFORMATION



(57) Abstract: Adaptive encoding of digital multimedia information may be performed by measuring link parameters, such as a received signal strength, a bit error rate, or a rate of received acknowledgement signals, in order to determine an available transmission rate. A maximum encoding rate may then be determined based on the available transmission rate by, for example, dividing the available transmission rate by an overhead factor. If the encoding rate of the digital multimedia information exceeds the calculated maximum encoding rate, adaptive encoding of the digital multimedia information may be performed in order to conform the encoding rate of the digital multimedia information to the calculated maximum encoding rate. This process may involve compressing selected frames within a frame sequence, deleting high frequency components within selected frames, deleting I-frame components within selected frames, or mapping values within selected frames to corresponding values having coarser quantization.



KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



INTERNATIONAL SEARCH REPORT

Intern nal Application No PCT/18 03/06035

A. CLASSI	IFICATION OF SUBJECT MATTER		PC1/1B 03/06035
IPC 7	H04L1/00	-	
According to	to international Patent Classification (IPC) or to both national classification	ification and IPC	
B. FIELDS	SEARCHED		
IPC 7	ocumentation searched (classification system followed by classific H04L	ation symbols)	
ĺ			
Documentel	tion searched other than minimum documentation to the extent tha	et such documents are includ	dad in the fields coombad
			in the holds sealther
Electronic da	lata base consulted during the international search (name of data t	hase and where practical,	count forms read)
EPO-In	ternal, WPI Data, PAJ, INSPEC, COMP	PENDEX	sealon lenns useuj
	, , , , , , , , , , , , , , , , , , , ,	LIIDEA	
C. DOCUME	ENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the r	relevant passages	Relevant to claim No.
Х	WO 02/37700 A (AIRNET COMM CORP))	1-3,
	10 May 2002 (2002-05-10) page 15, line 10 - line 21		11–13
1	page 16, line 21 -page 17, line	13	
	page 17, line 14 -page 18. line	13	
1	page 20, line 3 -page 21, line 1 page 22, line 3 - line 16	.4	
x			
^	US 5 612 948 A (FETTE BRUCE A E 18 March 1997 (1997-03-18)	IT AL)	1,2,11,
- 1	column 5, line 65 -column 6, lin	ne 58	12
]	column 7, line 18 - line 36		1
1	column 8, line 10 - line 65 figures 5,6,8		
1		-/	
1			
	er documents are listed in the continuation of box C.	X Patent family men	mbers are listed in annex.
	egories of cited documents:	"T" later document publish	ned after the International filing date
CONSIGE	nt defining the general state of the art which is not ered to be of particular relevance	cited to understand ti	ot in conflict with the application but the principle or theory underlying the
E' earlier do	ocument but published on or after the international ate	"X" document of particular	relevance: the claimed invention
THE COLUMN	nt which may throw doubts on priority claim(s) or social to establish the publication date of another	involve an inventive s	o novel or cannot be considered to step when the document is taken atone
"O" documen	of different special reason (as specified) In referring to an oral disclosure, use, exhibition or	"Y" document of particular cannot be considered	relevance; the claimed invention
P documen	Published prior to the International filling data but	Gocument is combine	ed with one or more other such docu- ation being obvious to a person skilled
Margi tild	an are phonty date claimed	"&" document member of I	
Date of the ed	ctual completion of the international search		international search report
28	April 2004	07/05/200)4
Name and ma	alling address of the ISA	Authorized officer	
	European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk		
	Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3018	Papantoni	O11 A



Internal pal Application No PCT/IB 03/06035

		PCT/1B 03/06035
C.(Continue	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	1
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2001/053141 A1 (TONG WEN ET AL) 20 December 2001 (2001-12-20) page 2, right-hand column, paragraph 56 page 7, left-hand column, paragraph 83 -right-hand column, paragraph 86 figure 9	1,11
A	US 2002/118766 A1 (MITLIN VLAD ET AL) 29 August 2002 (2002-08-29) page 7, left-hand column, paragraph 88 -right-hand column, paragraph 95 page 13, left-hand column, paragraph 128 figure 5	1,11
A	US 6 154 489 A (ABOUSLEMAN GLEN PATRICK ET AL) 28 November 2000 (2000-11-28) column 11, line 9 - line 44 column 5, line 1 - line 29 figure 5	1,11
ļ		
.		
1		
į		·
	·	
	•	
CT/ISA/210 (c	continuation of second sheet) (January 2004)	



Inter ponal Application No PC1/IB 03/06035

	Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO	0237700	Α	10-05-2002	AU	3527302	Α	15-05-2002
				WO	0237700		10-05-2002
US	5612948	A	18-03-1997	NONE			
US	2001053141	A1	20-12-2001	CA	2305082		12-10-2001
				US	2001033560		25-10-2001
				AU	2541601	Α	31-07-2001
				UA	2541801		31-07-2001
				AU	3042401		31-07-2001
				BR	0107702		15-10-2002
				BR	0107704		19-11-2002
				CA	2397897		26-07-2001
				CN	1418418		14-05-2003
				EP	1249092		16-10-2002
				EP	1264435		11-12-2002
				WO	0154335		26-07-2001
				MO	0154336	AI	26-07-2001
				WO JP	0154337		26-07-2001
				US	2003529978		07-10-2003
				US	2001038630 2003123414		08-11-2001
				US	2002012334		03-07-2003
							31-01-2002
US	2002118766	A1	29-08-2002	US	2003105997		05-06-2003
				US	2002108081	A1	08-08-2002
US	6154489	Α	28-11-2000	NONE			